The highest Leader of Cutting Tools

MP SPADE DRILL

●MP Spade drill Features

- ▶Drilling diameter: Φ9.5~Φ114
- ▶Drilling depth: 2D~25D(Max.)
- ▶Stable drilling
- ▶Compatible with AMEC's T-A drill
- ▶Insert: Various insert grades and four coatings
- ▶Drill:
  - ①Chip Flute: Straight flute type, Helical flute type
  - ②Shank: Flanged shank, Lathe shank

●MP 스페이드 드릴 특징

- ▶가공직경: Φ9.5~Φ114
- ▶가공깊이: 2D~25D(최대)
- ▶안정된 드릴링
- ▶AMEC의 T-A 드릴과 호환

KoreaTechnics Ltd.
HIGH SPEED CUTTING TOOLS

Construction system of MPD's Code no.

MP Spade-drill Insert Series

coating / meterial	T=TiN							C=TiCN							A=TiAlN							S=TiAlSiN						
04 = M04 (HSS)	5	6	7	8				5	6	7	8				5	6	7	8				5	6	7	8			
48 = M48 (Primium HSS)	Y	Z	0	1	2	3	4	Y	Z	0	1	2	3	4	Y	Z	0	1	2	3	4	Y	Z	0	1	2	3	4
C2 = C25 (Carbide)																						0	1	2	3			

4 8	3	A	–	0470M
1	2	3		4

Material
04=M04(HSS)
48=M48(Premium HSS)
C2=C25(Carbide)

Insert Series
Y,Z,0,1,2,3,4,
5,6,7,8

Coating
T=TiN / C=TiCN /
A=TiAlN / S=TiAlSiN

Drilling diameter
metric= □□□.□M
inch = □.□□□□

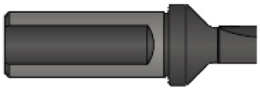
MP Spade-drill Holder

A. Flute type

MPS – Straight flute

MPH – Helical flute

B. Shank type



Flanged shank

Lathe shank
(Morse taper)

M	P	H	–	480	650	–	625	S40
1		2		3	4		5	6

Drill group

Flute type

min ~ max
Drilling diameter

Drilling depth

ShankΦ/type
Shank diameter /
Morse Taper size

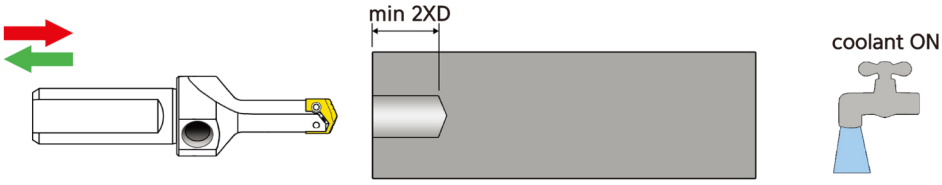
Deep Hole Drilling Guidelines(깊은홀가공방법)

For Lengths greater than 9XD (including Extended, Long, XL, 3XL, and Special Length)

STEP 1

Pilot Hole
100%RPM
100%mm/rev

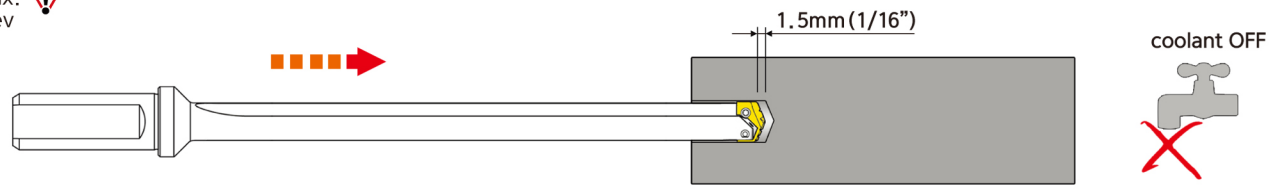
Establish the pilot hole using the same diameter short drill to a depth of 2XD minimum.
Utilise a pilot drill with the same or larger included point angle.
최소 2D까지 같은 홀 크기의 짧은 드릴로 초기 구멍을 작업합니다.
포인트 앵글을 포함한 것보다 같거나 더 큰 초기 가공홀 드릴을 이용합니다.



STEP 2

Feed-in
50RPM max.
300mm/rev

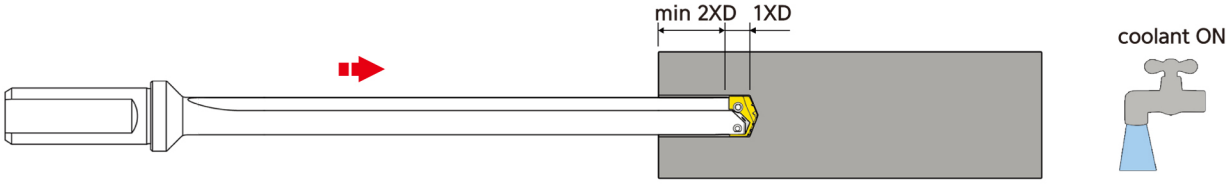
Feed the longer drill within 1.5mm(1/16") short of the established pilot hole bottom at a maximum of 50RPM and 300 mm/min (12 IPM) feed rate.
깊은 홀 드릴을 초기 가공홀 깊이(STEP1)보다 1.5mm(1/16") 이내로 더 가공합니다.
주의! 50RPM, 이송값은 300mm/min



STEP 3

Deep Hole Transition Drilling
50%RPM
75%mm/rev

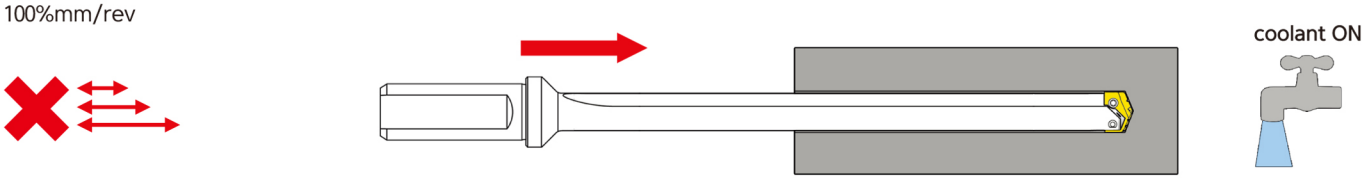
Drill additional 1XD past the bottom of the pilot hole at 50% reduction of recommended speed and 25% reduction of recommended feed. Minimum of 1 second dwell is required to meet full speed before feeding. 추천 절삭값의 RPM 50%, 이송값 25%를 감소시켜 추가로 1D를 더 가공합니다.
이송 전, 추천 절삭값으로 속도를 올리기 위해 최소 1초 동안 머물러 작업합니다.



STEP 4-1

Deep Hole Drilling – Blind
100%RPM
100%mm/rev

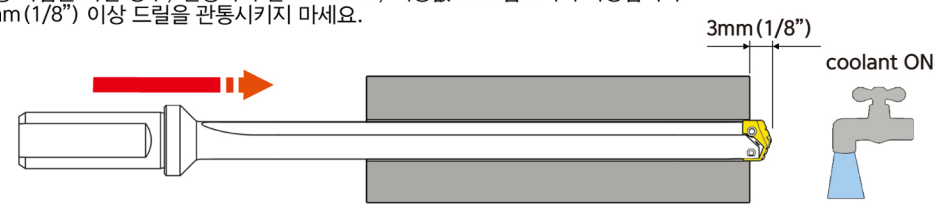
Drill to full depth at recommended speed and feed for longer drill according to Allide speed and feed charts. *No peck cycle recommended.*
깊은 홀 드릴을 추천 절삭조건으로 원하는 깊이까지 가공합니다.
peck cycle(스텝 이송 가공)은 권장하지 않습니다.



STEP 4-2

Deep Hole Drilling – at Breakout
50%RPM
75%mm/rev

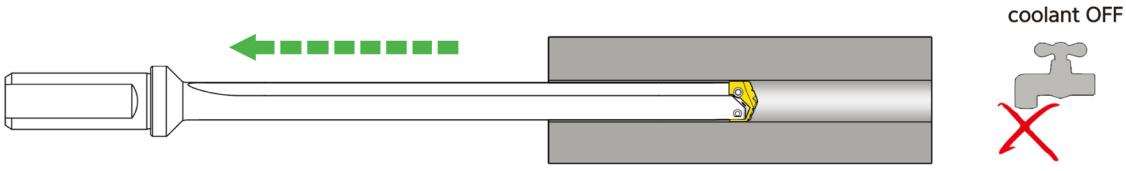
For through holes only: Reduce speed by 50% and feed by 25% prior to breakout.
Do not break out more than 3mm(1/8") past the full diameter of the drill.
관통 작업을 하실 경우, 관통하기 전 RPM 50%, 이송값 25% 감소시켜 가공합니다.
3mm(1/8") 이상 드릴을 관통시키지 마세요.



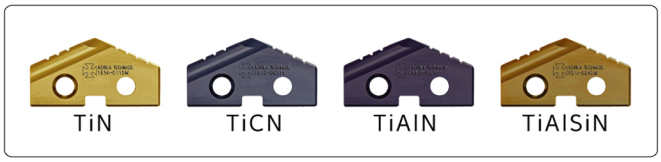
STEP 5

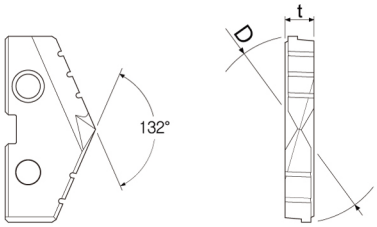
Drill Retract
50RPM max.

Reduce speed to a **Maximum of 50 RPM** before retracting from the hole.
가공을 마치고 제자리로 돌아오기 전에 RPM 50(최대)까지 줄인 후 후진 이송한다.



MPD Insert series

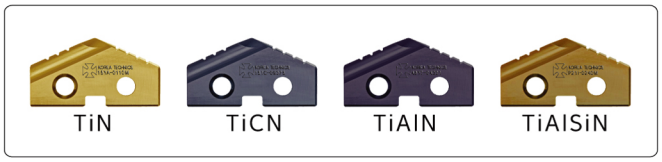


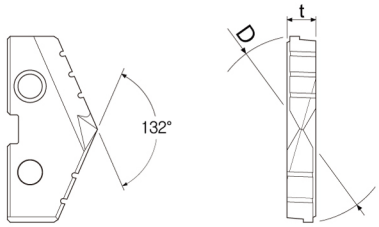


MP SPADE DRILL INSERT

Series	D		t	Code No.				
	mm	inch		TiN Premium HSS (M48)	TiCN Premium HSS (M48)	TiAlN Premium HSS (M48)	TiAlSiN Premium HSS (M48)	TiAlSiN Carbide (C25)
Y	9.5	.3740″	2.38	48YT-0095M	48YC-0095M	48YA-0095M	48YS-0095M	
	9.53	.3750″		48YT-03750	48YC-03750	48YA-03750	48YS-03750	
	9.80	.3860″		48YT-03860	48YC-03860	48YA-03860	48YS-03860	
	9.92	.3906″		48YT-03906	48YC-03906	48YA-03906	48YS-03906	
	10.00	.3937″		48YT-0100M	48YC-0100M	48YA-0100M	48YS-0100M	
	10.20	.4016″		48YT-04016	48YC-04016	48YA-04016	48YS-04016	
	10.32	.4063″		48YT-04063	48YC-04063	48YA-04063	48YS-04063	
	10.50	.4134″		48YT-0105M	48YC-0105M	48YA-0105M	48YS-0105M	
	10.72	.4219″		48YT-04219	48YC-04219	48YA-04219	48YS-04219	
	10.08	.4252″		48YT-04252	48YC-04252	48YA-04252	48YS-04252	
	11.00	.4331″		48YT-0110M	48YC-0110M	48YA-0110M	48YS-0110M	
Z	11.11	.4375″	2.38	48ZT-04375	48ZC-04375	48ZA-04375	48ZS-04375	
	11.50	.4528″		48ZT-0115M	48ZC-0115M	48ZA-0115M	48ZS-0115M	
	11.51	.4531″		48ZT-04531	48ZC-04531	48ZA-04531	48ZS-04531	
	11.91	.4688″		48ZT-04688	48ZC-04688	48ZA-04688	48ZS-04688	
	12.00	.4724″		48ZT-0120M	48ZC-0120M	48ZA-0120M	48ZS-0120M	
	12.30	.4844″		48ZT-04844	48ZC-04844	48ZA-04844	48ZS-04844	
	12.50	.4921″		48ZT-0125M	48ZC-0125M	48ZA-0125M	48ZS-0125M	
	12.70	.5000″		48ZT-05000	48ZC-05000	48ZA-05000	48ZS-05000	
O	13.00	.5118″	3.18	480T-0130M	480C-0130M	480A-0130M	480S-0130M	C20S-0130M
	13.10	.5156″		480T-05156	480C-05156	480A-05156	480S-05156	C20S-05156
	13.49	.5313″		480T-05313	480C-05313	480A-05313	480S-05313	C20S-05313
	13.50	.5315″		480T-0135M	480C-0135M	480A-0135M	480S-0135M	C20S-0135M
	13.89	.5469″		480T-05469	480C-05469	480A-05469	480S-05469	C20S-05469
	14.00	.5512″		480T-0140M	480C-0140M	480A-0140M	480S-0140M	C20S-0140M
	14.29	.5625″		480T-05625	480C-05625	480A-05625	480S-05625	C20S-05625
	14.50	.5709″		480T-0145M	480C-0145M	480A-0145M	480S-0145M	C20S-0145M
	14.68	.5781″		480T-05781	480C-05781	480A-05781	480S-05781	C20S-05781
	15.00	.5906″		480T-0150M	480C-0150M	480A-0150M	480S-0150M	C20S-0150M
	15.08	.5938″		480T-05938	480C-05938	480A-05938	480S-05469	C20S-05469
	15.48	.6094″		480T-06094	480C-06094	480A-06094	480S-06094	C20S-06094
	15.50	.6102″		480T-0155M	480C-0155M	480A-0155M	480S-0155M	C20S-0155M
	15.88	.6250″		480T-06250	480C-06250	480A-06250	480S-06250	C20S-06250
	16.00	.6299″		480T-0160M	480C-0160M	480A-0160M	480S-0160M	C20S-0160M
	16.27	.6406″		480T-06406	480C-06406	480A-06406	480S-06406	C20S-06406
	16.50	.6496″		480T-0165M	480C-0165M	480A-0165M	480S-0165M	C20S-0165M
	16.67	.6563″		480T-06563	480C-06563	480A-06563	480S-06563	C20S-06563
	17.00	.6693″		480T-0170M	480C-0170M	480A-0170M	480S-0170M	C20S-0170M
	17.46	.6875″		480T-06875	480C-06875	480A-06875	480S-06875	C20S-06875
	17.70	.6719″		480T-06719	480C-06719	480A-06719	480S-06719	C20S-06719
	17.50	.6890″		480T-0175M	480C-0175M	480A-0175M	480S-0175M	C20S-0175M

MPD Insert series





MP SPADE DRILL INSERT

Series	D mm	D inch	t	Code No. TiN Premium HSS (M48)	TiCN Premium HSS (M48)	TiAlN Premium HSS (M48)	TiAlSiN Premium HSS (M48)	TiAlSiN Carbide (C25)
1	17.86	.7031″	4.00	481T-07031	481C-07031	481A-07031	481S-07031	C21S-07031
	18.00	.7087″		481T-0180M	481C-0180M	481A-0180M	481S-0180M	C21S-0180M
	18.26	.7188″		481T-07188	481C-07188	481A-07188	481S-07188	C21S-07188
	18.50	.7283″		481T-0185M	481C-0185M	481A-0185M	481S-0185M	C21S-0185M
	18.65	.7344″		481T-07344	481C-07344	481A-07344	481S-07344	C21S-07344
	19.00	.7480″		481T-0190M	481C-0190M	481A-0190M	481S-0190M	C21S-0190M
	19.05	.7500″		481T-07500	481C-07500	481A-07500	481S-07500	C21S-07500
	19.45	.7656″		481T-07656	481C-07656	481A-07656	481S-07656	C21S-07656
	19.50	.7677″		481T-0195M	481C-0195M	481A-0195M	481S-0195M	C21S-0195M
	19.84	.7813″		481T-07813	481C-07813	481A-07813	481S-07813	C21S-07813
	20.00	.7874″		481T-0200M	481C-0200M	481A-0200M	481S-0200M	C21S-0200M
	20.24	.7969″		481T-07969	481C-07969	481A-07969	481S-07969	C21S-07969
	20.50	.8071″		481T-0205M	481C-0205M	481A-0205M	481S-0205M	C21S-0205M
	20.64	.8125″		481T-08125	481C-08125	481A-08125	481S-08125	C21S-08125
	21.00	.8268″		481T-0210M	481C-0210M	481A-0210M	481S-0210M	C21S-0210M
	21.43	.8438″		481T-08438	481C-08438	481A-08438	481S-08438	C21S-08438
	21.50	.8465″		481T-0215M	481C-0215M	481A-0215M	481S-0215M	C21S-0215M
	21.83	.8594″		481T-08594	481C-08594	481A-08594	481S-08594	C21S-08594
	22.00	.8661″		481T-0220M	481C-0220M	481A-0220M	481S-0220M	C21S-0220M
	22.23	.8750″		481T-08750	481C-08750	481A-08750	481S-08750	C21S-08750
	22.50	.8858″		481T-0225M	481C-0225M	481A-0225M	481S-0225M	C21S-0225M
	22.62	.8906″		481T-08906	481C-08906	481A-08906	481S-08906	C21S-08906
	23.00	.9055″		481T-0230M	481C-0230M	481A-0230M	481S-0230M	C21S-0230M
	23.02	.9063″		481T-09063	481C-09063	481A-0235M	481S-0235M	C21S-0235M
	23.42	.9219″		481T-09219	481C-09219	481A-09219	481S-09219	C21S-09219
	23.50	.9252″		481T-0235M	481C-0235M	481A-0235M	481S-0235M	C21S-0235M
	23.81	.9375″		481T-09375	481C-09375	481A-09375	481S-09375	C21S-09375
	24.00	.9449″		481T-0240M	481C-0240M	481A-0240M	481S-0240M	C21S-0240M

인서트 명칭 및 기능 The name and funcion of the part of insert

WEB THINNING&EDGE
절삭 시 추력을 감소시켜주고 칩 배출 공간을 형성시킨다.
During cutting, making the space for the chips evacuation

OD MARGIN (LAND)
가공된 구멍을 다듬질 한다.
To trim the hakk processed

OD CLEARANCE
효과적인 열 방출을 도와준다.
Efficient ejection of heat

KEYWAY
HOLDER의 PIN으로 축방향에 대칭이 되도록 INSERT를 잡아준다.
To fix the inserts symmetric to axis

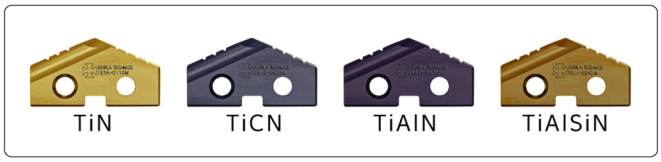
CUTTING EDGE
칩의 폭을 줄여주는 실제 절삭이 이루어지는 부분.
Cutting edge

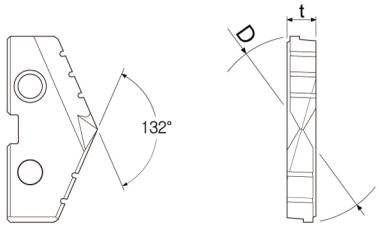
CHIP SPLITTERS
칩의 폭을 줄여주는 CHIP DIVIR의역할을 한다.
Chip breaker for efficient chips evacuation

RAKE SURFACE
실제 절삭이 일어나는 부분으로 칩을 끊어주는 역할을 한다.
The part of cutting and the part of chip breaker

CORNER CHAMFER
마모를 줄여주어 공구 수명을 향상시킨다.
To reduce wear and improve the tool life

PRIMARY, SECONDARY CLEARANCE SURFACE
RAKE SURFACE와 더불어 절삭인선을 형성시켜주며 열 방출을 도와준다.
With cutting edge to make a hole and efficient ejection of heat





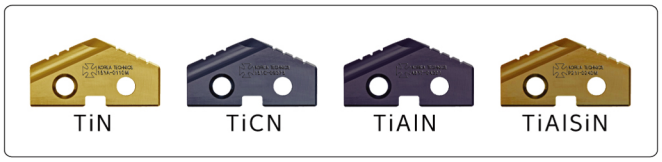
MP SPADE DRILL INSERT

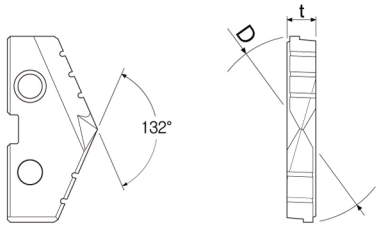
Series	D		t	Code No.				
	mm	inch		TiN Premium HSS (M48)	TiCN Premium HSS (M48)	TiAlN Premium HSS (M48)	TiAlSiN Premium HSS (M48)	TiAlSiN Carbide (C25)
2	24.50	.9646″	4.76	482T-0245M	482C-0245M	482A-0245M	482S-0245M	C22S-0245M
	24.61	.9688″		482T-09688	482C-09688	482A-09688	482S-09688	C22S-09688
	24.85	.9783″		482T-02485	482C-02485	482A-02485	482S-02485	C22S-02485
	25.00	.9843″		482T-0250M	482C-0250M	482A-0250M	482S-0250M	C22S-0250M
	25.40	1.0000″		482T-10000	482C-10000	482A-10000	482S-10000	C22S-10000
	25.50	1.0039″		482T-0255M	482C-0255M	482A-0255M	482S-0255M	C22S-0255M
	25.80	1.0156″		482T-10156	482C-10156	482A-10156	482S-10156	C22S-10156
	26.00	1.0236″		482T-0260M	482C-0260M	482A-0260M	482S-0260M	C22S-0260M
	26.19	1.0313″		482T-10313	482C-10313	482A-10313	482S-10313	C22S-10313
	26.50	1.0431″		482T-0265M	482C-0265M	482A-0265M	482S-0265M	C22S-0265M
	26.59	1.0469″		482T-10469	482C-10469	482A-10469	482S-10469	C22S-10469
	26.99	1.0625″		482T-10625	482C-10625	482A-10625	482S-10625	C22S-10625
	27.00	1.0630″		482T-0270M	482C-0270M	482A-0270M	482S-0270M	C22S-0270M
	27.50	1.0827″		482T-0275M	482C-0275M	482A-0275M	482S-0275M	C22S-0275M
	27.78	1.0938″		482T-10938	482C-10938	482A-10938	482S-10938	C22S-10938
	28.00	1.1024″		482T-0280M	482C-0280M	482A-0280M	482S-0280M	C22S-0280M
	28.18	1.1094″		482T-11094	482C-11094	482A-11094	482S-11094	C22S-11094
	28.50	1.1220″		482T-0285M	482C-0285M	482A-0285M	482S-0285M	C22S-0285M
	28.58	1.1250″		482T-11250	482C-11250	482A-11250	482S-11250	C22S-11250
	29.00	1.1417″		482T-0290M	482C-0290M	482A-0290M	482S-0290M	C22S-0290M
	29.37	1.1563″		482T-11563	482C-11563	482A-11563	482S-11563	C22S-11563
	29.50	1.1614″		482T-0295M	482C-0295M	482A-0295M	482S-0295M	C22S-0295M
	30.00	1.1811″		482T-0300M	482C-0300M	482A-0300M	482S-0300M	C22S-0300M
	30.16	1.1875″		482T-11875	482C-11875	482A-11875	482S-11875	C22S-11875
	30.50	1.2008″		482T-0305M	482C-0305M	482A-0305M	482S-0305M	C22S-0305M
	30.96	1.2188″		482T-12188	482C-12188	482A-12188	482S-12188	C22S-12188
	31.00	1.2205″		482T-0310M	482C-0310M	482A-0310M	482S-0310M	C22S-0310M
	31.50	1.2402″		482T-0315M	482C-0315M	482A-0315M	482S-0315M	C22S-0315M
	31.75	1.2500″		482T-12500	482C-12500	482A-12500	482S-12500	C22S-12500
	32.00	1.2598″		482T-0320M	482C-0320M	482A-0320M	482S-0320M	C22S-0320M
	32.50	1.2795″		482T-0325M	482C-0325M	482A-0325M	482S-0325M	C22S-0325M
	32.54	1.2813″		482T-12813	482C-12813	482A-12813	482S-12813	C22S-12813
	33.00	1.2992″		482T-0330M	482C-0330M	482A-0330M	482S-0330M	C22S-0330M
	33.34	1.3125″		482T-13125	482C-13125	482A-13125	482S-13125	C22S-13125
	33.50	1.3187″		482T-0335M	482C-0335M	482A-0335M	482S-0335M	C22S-0335M
	34.00	1.3386″		482T-0340M	482C-0340M	482A-0340M	482S-0340M	C22S-0340M
	34.13	1.3438″		482T-13438	482C-13438	482A-13438	482S-13438	C22S-13438
	34.50	1.3583″		482T-0345M	482C-0345M	482A-0345M	482S-0345M	C22S-0345M
	34.93	1.3750″		482T-13750	482C-13750	482A-13750	482S-13750	C22S-13750
	35.00	1.3780″		482T-0350M	482C-0350M	482A-0350M	482S-0350M	C22S-0350M

인서트 재종

HSS (M04) Standard	Premium HSS (M48)	Carbide (C25)
■ 일반강 및 주철에 사용 Applied for steels and cast Iron	■ 고경도합금 및 경도 재질에 350-500Bhn (HRC37~49)의 사용 Applied for high temp Alloy and 350~500Bhn (HRC37~49) and harder ■ 9.5mm to 114.00mm	■ 일반탄소강, 합금강 및 난삭재에 사용 Applied for Carbon Steel, Alloy Steel and Hard to Machine Material (Titanium and Stainless Steel) ■ 13.00mm to 47.00mm

MPD Insert series





MP SPADE DRILL INSERT

Series	D		t	Code No.				
	mm	inch		TiN Premium HSS (M48)	TiCN Premium HSS (M48)	TiAlN Premium HSS (M48)	TiAlSiN Premium HSS (M48)	TiAlSiN Carbide (C25)
3	35.50	1.3976″	6.35	483T-0355M	483C-0355M	483A-0355M	483S-0355M	C23S-0355M
	35.72	1.4063″		483T-14063	483C-14063	483A-14063	483S-14063	C23S-14063
	36.00	1.4173″		483T-0360M	483C-0360M	483A-0360M	483S-0360M	C23S-0360M
	36.50	1.4370″		483T-0365M	483C-0365M	483A-0365M	483S-0365M	C23S-0365M
	36.51	1.4375″		483T-14375	483C-14375	483A-14375	483S-14375	C23S-14375
	37.00	1.4567″		483T-0370M	483C-0370M	483A-0370M	483S-0370M	C23S-0370M
	37.31	1.4688″		483T-14688	483C-14688	483A-14688	483S-14688	C23S-14688
	38.00	1.4961″		483T-0380M	483C-0380M	483A-0380M	483S-0380M	C23S-0380M
	38.10	1.5000″		483T-15000	483C-15000	483A-15000	483S-15000	C23S-15000
	38.89	1.5313″		483T-15313	483C-15313	483A-15313	483S-15313	C23S-15313
	39.00	1.5354″		483T-0390M	483C-0390M	483A-0390M	483S-0390M	C23S-0390M
	39.69	1.5625″		483T-15625	483C-15625	483A-15625	483S-15625	C23S-15625
	40.00	1.5748″		483T-0400M	483C-0400M	483A-0400M	483S-0400M	C23S-0400M
	40.48	1.5938″		483T-15938	483C-15938	483A-15938	483S-15938	C23S-15938
	41.00	1.6142″		483T-0410M	483C-0410M	483A-0410M	483S-0410M	C23S-0410M
	41.28	1.6250″		483T-16250	483C-16250	483A-16250	483S-16250	C23S-16250
	42.00	1.6535″		483T-0420M	483C-0420M	483A-0420M	483S-0420M	C23S-0420M
	42.07	1.6563″		483T-16563	483C-16563	483A-16563	483S-16563	C23S-16563
	42.86	1.6875″		483T-16875	483C-16875	483A-16875	483S-16875	C23S-16875
	43.00	1.6929″		483T-0430M	483C-0430M	483A-0430M	483S-0430M	C23S-0430M
	43.66	1.7188″		483T-17188	483C-17188	483A-17188	483S-17188	C23S-17188
	44.00	1.7323″		483T-0440M	483C-0440M	483A-0440M	483S-0440M	C23S-0440M
	44.45	1.7500″		483T-17500	483C-17500	483A-17500	483S-17500	C23S-17500
	45.00	1.7717″		483T-0450M	483C-0450M	483A-0450M	483S-0450M	C23S-0450M
	45.24	1.7813″		483T-17813	483C-17813	483A-17813	483S-17813	C23S-17813
	46.00	1.8110″		483T-0460M	483C-0460M	483A-0460M	483S-0460M	C23S-0460M
	46.04	1.8125″		483T-18125	483C-18125	483A-18125	483S-18125	C23S-18125
	46.83	1.8438″		483T-18438	483C-18438	483A-18438	483S-18438	C23S-18438
	47.00	1.8504″		483T-0470M	483C-0470M	483A-0470M	483S-0470M	C23S-0470M
	47.63	1.8750″		483T-18750	483C-18750	483A-18750	483S-18750	C23S-18750

인서트 코팅

TiN

- 범용코팅
  General purpose coating
- 공구 수명 향상
  Improved tool life over a noncoated insert
- 알루미늄 작업에 탁월
  Excellent choice for Aluminnium
  Color : Gold/Yellow

TiAlN

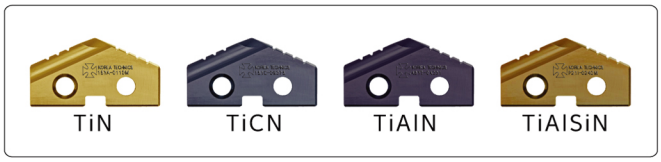
- 고속 가공시 발생하는 마모 저항에 탁월한 성능
  Excellent choice for wear resistance over low surface speeds
- 산화 저항 우수
  Excellent oxidation resistance
- 800℃까지 작업가능
  Maximum working temperature 800
- 경도 HV3000
  Hardness HV3000
  Color : Violet / Black

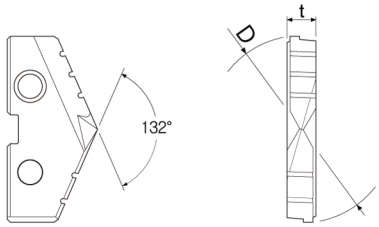
TiCN

- 고속 가공시 발생하는 마모 저항에 탁월한 성능
  Excellent choice for wear resistance over low surface speeds
- 고강도 / 마모방지
  High hardness / wear resistance
- 400℃까지 작업가능
  Maximum working temperature 400
- 경도 HV3500
  Hardness HV3500
  Color : Blue / Grey

TiAlSiN

- 작업시 발생하는 열 저항이 TiN, TiCN 보다 우수
  First choice for increased heat resistance over TiN, TiCN
- 타 코팅보다 우수한 공구 수명과 시장 진입의 우수성
  Allows for improved tool life and higher penetration rates of the market
- TiAlN 코팅보다 20%이상 공구수명 연장
  Over 20% increased tool life over TiAlN
  Color : Copper /Bronze

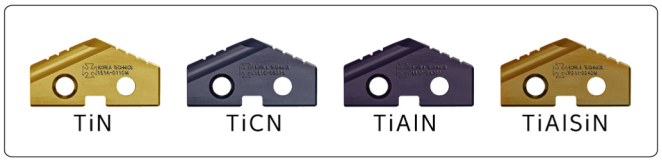


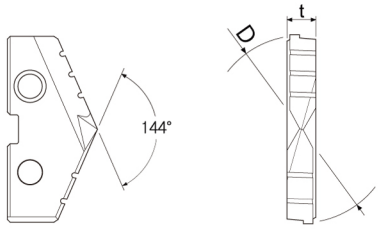


MP SPADE DRILL INSERT

Series	D		t	Code No.				
	mm	inch		TiN Premium HSS (M48)	TiCN Premium HSS (M48)	TiAlN Premium HSS (M48)	TiAlSiN Premium HSS (M48)	TiAlSiN Carbide (C25)
4	48.00	1.8898″	7.94	484T-0480M	484C-0480M	484A-0480M	484S-0480M	
	48.42	1.9063″		484T-19063	484C-19063	484A-19063	484S-19063	
	49.00	1.9291″		484T-0490M	484C-0490M	484A-0490M	484S-0490M	
	49.21	1.9375″		484T-19375	484C-19375	484A-19375	484S-19375	
	50.00	1.9685″		484T-0500M	484C-0500M	484A-0500M	484S-0500M	
	50.01	1.9688″		484T-19688	484C-19688	484A-19688	484S-19688	
	50.80	2.0000″		484T-20000	484C-20000	484A-20000	484S-20000	
	21.00	2.0078″		484T-0510M	484C-0510M	484A-0510M	484S-0510M	
	51.19	2.0313″		484T-20313	484C-20313	484A-20313	484S-20313	
	52.00	2.0472″		484T-20472	484C-20472	484A-20472	484S-20472	
	52.39	2.0625″		484T-20625	484C-20625	484A-20625	484S-20625	
	53.00	2.0866″		484T-0530M	484C-0530M	484A-0530M	484S-0530M	
	53.18	2.0938″		484T-20938	484C-20938	484A-20938	484S-20938	
	53.98	2.1250″		484T-21250	484C-21250	484A-21250	484S-21250	
	54.00	2.1260″		484T-0540M	484C-0540M	484A-0540M	484S-0540M	
	54.79	2.1563″		484T-21563	484C-21563	484A-21563	484S-21563	
	55.00	2.1654″		484T-0550M	484C-0550M	484A-0550M	484S-0550M	
	55.56	2.1875″		484T-21875	484C-21875	484A-21875	484S-21875	
	56.00	2.2047″		484T-0560M	484C-0560M	484A-0560M	484S-0560M	
	56.36	2.2188″		484T-22188	484C-22188	484A-22188	484S-22188	
	57.00	2.2441″		484T-0570M	484C-0570M	484A-0570M	484S-0570M	
	57.15	2.2500″		484T-22500	484C-22500	484A-22500	484S-22500	
	57.94	2.2813″		484T-22813	484C-22813	484A-22813	484S-22813	
	58.00	2.2835″		484T-0580M	484C-0580M	484A-0580M	484S-0580M	
	58.74	2.3125″		484T-23125	484C-23125	484A-23125	484S-23125	
	59.00	2.3228″		484T-0590M	484C-0590M	484A-0590M	484S-0590M	
	59.53	2.3438″		484T-23438	484C-23438	484A-23438	484S-23438	
	60.00	2.3662″		484T-0600M	484C-0600M	484A-0600M	484S-0600M	
	60.33	2.3750″		484T-23750	484C-23750	484A-23750	484S-23750	
	61.00	2.4016″		484T-0610M	484C-0610M	484A-0610M	484S-0610M	
	61.12	2.1063″		484T-24063	484C-24063	484A-24063	484S-24063	
	61.91	2.4375″		484T-24375	484C-24375	484A-24375	484S-24375	
	62.00	2.4409″		484T-0620M	484C-0620M	484A-0620M	484S-0620M	
	62.71	2.4688″		484T-24688	484C-24688	484A-24688	484S-24688	
	63.00	2.4803″		484T-0630M	484C-0630M	484A-0630M	484S-0630M	
	63.50	2.5000″		484T-0635M	484C-0635M	484A-0635M	484S-0635M	
	64.00	2.5197″		484T-0640M	484C-0640M	484A-0640M	484S-0640M	
	64.29	2.5313″		484T-25313	484C-25313	484A-25313	484S-25313	
	65.00	2.5591″		484T-0650M	484C-0650M	484A-0650M	484S-0650M	
	65.09	2.5625″		484T-25625	484C-25625	484A-25625	484S-25625	

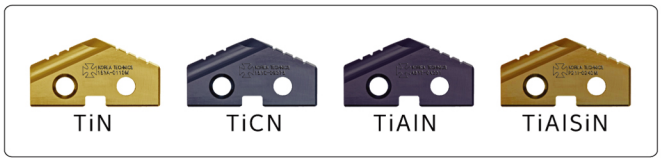
MPD Insert series

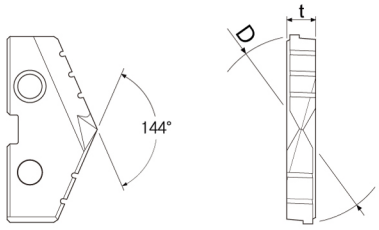




MP SPADE DRILL INSERT

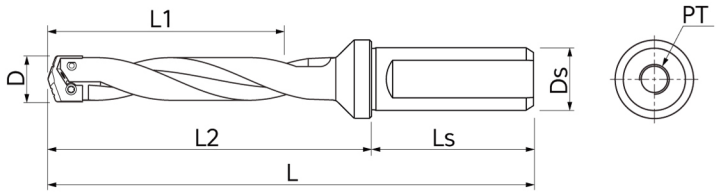
Series	D		t	Code No.				
	mm	inch		TiN Premium HSS (M48)	TiCN Premium HSS (M48)	TiAlN Premium HSS (M48)	TiAlSiN Premium HSS (M48)	TiAlSiN Carbide (C25)
5	63.50	2.2500″	11.11	045T-0635M	045C-0635M	045A-0635M	045S-0635M	
	64.00	2.5197″		045T-0640M	045C-0640M	045A-0640M	045S-0640M	
	64.29	2.5313″		045T-25313	045C-25313	045A-25313	045S-25313	
	65.09	2.5625″		045T-25625	045C-25625	045A-25625	045S-25625	
	65.88	2.5938″		045T-25938	045C-25938	045A-25938	045S-25938	
	66.00	2.5984″		045T-0660M	045C-0660M	045A-0660M	045S-0660M	
	66.68	2.6250″		045T-26250	045C-26250	045A-26250	045S-26250	
	67.47	2.6563″		045T-26563	045C-26563	045A-26563	045S-26563	
	68.00	2.6772″		045T-0680M	045C-0680M	045A-0680M	045S-0680M	
	68.26	2.6875″		045T-26875	045C-26875	045A-26875	045S-26875	
	69.05	2.7188″		045T-27188	045C-27188	045A-27188	045S-27188	
	69.85	2.7500″		045T-27500	045C-27500	045A-27500	045S-27500	
	70.00	2.7559″		045T-0700M	045C-0700M	045A-0700M	045S-0700M	
	70.64	2.7813″		045T-27813	045C-27813	045A-27813	045S-27813	
	71.44	2.8125″		045T-28125	045C-28125	045A-28125	045S-28125	
	72.00	2.8346″		045T-0720M	045C-0720M	045A-0720M	045S-0720M	
	72.23	2.8438″		045T-28438	045C-28438	045A-28438	045S-28438	
	73.03	2.8750″		045T-28750	045C-28750	045A-28750	045S-28750	
	73.82	2.9063″		045T-29063	045C-29063	045A-29063	045S-29063	
	74.00	2.9134″		045T-0740M	045C-0740M	045A-0740M	045S-0740M	
	74.61	2.9375″		045T-29375	045C-29375	045A-29375	045S-29375	
	75.41	2.9688″		045T-29688	045C-29688	045A-29688	045S-29688	
	76.00	2.9921″		045T-0760M	045C-0760M	045A-0760M	045S-0760M	
	76.20	3.0000″		045T-30000	045C-30000	045A-30000	045S-30000	
6	76.99	3.0313″	11.11	046T-30313	046C-30313	046A-30313	046S-30313	
	77.79	3.0625″		046T-30625	046C-30625	046A-30625	046S-30625	
	78.00	3.0709″		046T-0780M	046C-0780M	046A-0780M	046S-0780M	
	78.58	3.0938″		046T-30938	046C-30938	046A-30938	046S-30938	
	79.38	3.1250″		046T-31250	046C-31250	046A-31250	046S-31250	
	80.00	3.1496″		046T-0800M	046C-0800M	046A-0800M	046S-0800M	
	80.17	3.1563″		046T-31563	046C-31563	046A-31563	046S-31563	
	80.96	3.1875″		046T-31875	046C-31875	046A-31875	046S-31875	
	81.76	3.2188″		046T-32188	046C-32188	046A-32188	046S-32188	
	82.00	3.2283″		046T-0820M	046C-0820M	046A-0820M	046S-0820M	
	82.55	3.2500″		046T-32500	046C-32500	046A-32500	046S-32500	
	83.34	3.2813″		046T-32813	046C-32813	046A-32813	046S-32813	
	84.00	3.3071″		046T-0840M	046C-0840M	046A-0840M	046S-0840M	
	84.14	3.3125″		046T-33125	046C-33125	046A-33125	046S-33125	
	84.93	3.3438″		046T-33438	046C-33438	046A-33438	046S-33438	
	85.73	3.3750″		046T-33750	046C-33750	046A-33750	046S-33750	
	86.00	3.3858″		046T-0860M	046C-0860M	046A-0860M	046S-0860M	
	86.52	3.4063″		046T-34063	046C-34063	046A-34063	046S-34063	
	87.31	3.4375″		046T-34375	046C-34375	046A-34375	046S-34375	
	88.00	3.4646″		046T-0880M	046C-0880M	046A-0880M	046S-0880M	
	88.11	3.4688″		046T-34688	046C-34688	046A-34688	046S-34688	
	88.90	3.5000″		046T-35000	046C-35000	046A-35000	046S-35000	





MP SPADE DRILL INSERT

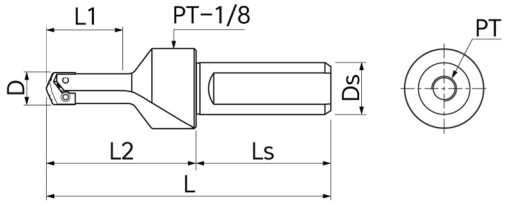
Series	D		t	Code No.				
	mm	inch		TiN Premium HSS (M48)	TiCN Premium HSS (M48)	TiAlN Premium HSS (M48)	TiAlSiN Premium HSS (M48)	TiAlSiN Carbide (C25)
7	89.69	3.5313″	11.11	047T-35313	047C-35313	047A-35313	047S-35313	
	90.00	3.5433″		047T-0900M	047C-0900M	047A-0900M	047S-0900M	
	90.49	3.5625″		047T-35625	047C-35625	047A-35625	047S-35625	
	91.28	3.5938″		047T-35938	047C-35938	047A-35938	047S-35938	
	92.00	3.6221″		047T-0920M	047C-0920M	047A-0920M	047S-0920M	
	92.08	3.6250″		047T-36250	047C-36250	047A-36250	047S-36250	
	92.87	3.6563″		047T-36563	047C-36563	047A-36563	047S-36563	
	93.66	3.6875″		047T-36875	047C-36875	047A-36875	047S-36875	
	94.00	3.7008″		047T-0940M	047C-0940M	047A-0940M	047S-0940M	
	94.46	3.7188″		047T-37188	047C-37188	047A-37188	047S-37188	
	95.25	3.7500″		047T-37500	047C-37500	047A-37500	047S-37500	
	96.00	3.7795″		047T-0960M	047C-0960M	047A-0960M	047S-0960M	
	96.04	3.7813″		047T-37813	047C-37813	047A-37813	047S-37813	
	96.84	3.8125″		047T-38125	047C-38125	047A-38125	047S-38125	
	97.63	3.8438″		047T-38438	047C-38438	047A-38438	047S-38438	
	98.00	3.8583″		047T-0980M	047C-0980M	047A-0980M	047S-0980M	
	98.43	3.8750″		047T-38750	047C-38750	047A-38750	047S-38750	
	99.22	3.9063″		047T-39063	047C-39063	047A-39063	047S-39063	
	100.00	3.9370″		047T-1000M	047C-1000M	047A-1000M	047S-1000M	
	100.01	3.9375″		047T-39375	047C-39375	047A-39375	047S-39375	
	100.81	3.9688″		047T-39688	047C-39688	047A-39688	047S-39688	
	101.60	4.0000″		047T-40000	047C-40000	047A-40000	047S-40000	
8	102.00	4.0157″	11.11	048T-40157	048C-40157	048A-40157	048S-40157	
	103.19	4.0625″		048T-40625	048C-40625	048A-40625	048S-40625	
	103.98	4.0938″		048T-40938	048C-40938	048A-40938	048S-40938	
	104.00	4.0945″		048T-1040M	048C-1040M	048A-1040M	048S-1040M	
	104.78	4.1250″		048T-41250	048C-41250	048A-41250	048S-41250	
	106.00	4.1732″		048T-1060M	048C-1060M	048A-1060M	048S-1060M	
	106.36	4.1875″		048T-41875	048C-41875	048A-41875	048S-41875	
	107.95	4.2500″		048T-42500	048C-42500	048A-42500	048S-42500	
	108.00	4.2520″		048T-1082M	048C-1082M	048A-1082M	048S-1082M	
	109.54	4.3125″		048T-43125	048C-43125	048A-43125	048S-43125	
	110.00	4.3307″		048T-1100M	048C-1100M	048A-1100M	048S-1100M	
	111.13	4.3750″		048T-43750	048C-43750	048A-43750	048S-43750	
	112.00	4.4094″		048T-1120M	048C-1120M	048A-1120M	048S-1120M	
	112.71	4.4375″		048T-44375	048C-44375	048A-44375	048S-44375	
	114.00	4.4482″		048T-1140M	048C-1140M	048A-1140M	048S-1140M	
	114.30	4.5000″		048T-45000	048C-45000	048A-45000	048S-45000	



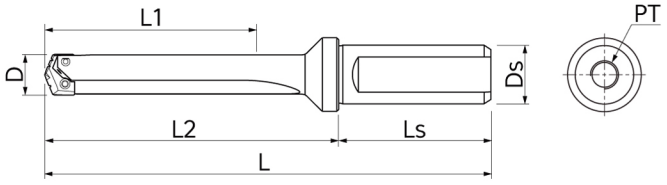
MP SPADE DRILL - MPH (Helical Flute / Flange shank)

Code No.	Length	치수 Dimension(mm)							Insert Series	부품 Component	
		D	L1	L2	L	Ds	Ls	PT		Screw	Driver
MPH-095110-060S20	Standard	9.5~11.0	60.3	92.1	134	20	48	1/8″	Y	TSB-MP20040	TXL-7
MPH-095110-111S20	Extended		111.1	142.9	192.9	20	50	1/8″			
MPH-115125-060S20	Standard	115~12.5	60.3	92.1	136	20	50	1/8″	Z	TSB-MP20050	
MPH-115125-111S20	Extended		111.1	142.9	192.9	20	50	1/8″			
MPH-130175-064S20	Standard	13.0~17.5	63.5	94.9	144.9	20	50	1/8″	0	TSB-MP25060	TXL-8
MPH-130175-114S20	Extended		114.3	145.7	195.7	20	50	1/8″			
MPH-130175-178S20	Long		177.8	209.1	259.1	20	50	1/8″			
MPH-130175-295S20	XL(extra long)		295	326.7	376.7	20	50	1/8″			
MPH-130175-387S20	3XL(extra long)		387	418.8	468.8	20	50	1/8″			
MPH-155175-064S20	Standard	15.5~17.5	63.5	94.9	144.9	20	50	1/8″			
MPH-155175-114S20	Extended		114.3	145.7	195.7	20	50	1/8″			
MPH-155175-178S20	Long		177.8	209.1	259.1	20	50	1/8″			
MPH-155175-295S20	XL(extra long)		295	326.7	376.7	20	50	1/8″			
MPH-155175-387S20	3XL(extra long)		387	418.8	468.8	20	50	1/8″			
MPH-180240-118S25	Intermediate	18.0~24.0	117.5	158.4	214.4	25	56	1/8″	1	TSB-MP30070	TXL-9
MPH-180240-168S25	Standard		168.3	209.2	265.2	25	56	1/8″			
MPH-180240-270S25	Long		269.9	310.8	366.8	25	56	1/8″			
MPH-180240-457S25	XL(extra long)		457	498.1	554.1	25	56	1/8″			
MPH-180240-569S25	3XL(extra long)		569	606.1	662.1	25	56	1/8″			
MPH-220240-118S25	Intermediate	22.0~24.0	117.5	158.4	214.4	25	56	1/8″			
MPH-220240-168S25	Standard		168.3	209.2	265.2	25	56	1/8″			
MPH-220240-270S25	Extended		269.9	310.8	366.8	25	56	1/8″			
MPH-220240-457S25	XL(extra long)		457	498.1	554.1	25	56	1/8″			
MPH-220240-567S25	3XL(extra long)		569	606.1	662.1	25	56	1/8″			
MPH-250350-137S32	Intermediate	25.0~35.0	136.5	183	243	32	60	1/4″	2	TSB-MP40095	TXL-15
MPH-250350-187S32	Standard		187.3	233.8	293.8	32	60	1/4″			
MPH-250350-289S32	Extended		288.9	335.4	395.4	32	60	1/4″			
MPH-250350-511S32	XL(extra long)		511	557.7	617.7	32	60	1/4″			
MPH-250350-692S32	3XL(extra long)		692	738.7	798.7	32	60	1/4″			
MPH-300350-137S32	Intermediate	30.0~35.0	136.5	183	243	32	60	1/4″			
MPH-300350-187S32	Standard		187.3	233.8	293.8	32	60	1/4″			
MPH-300350-289S32	Extended		288.9	335.4	395.4	32	60	1/4″			
MPH-300350-511S32	XL(extra long)		511	557.7	617.7	32	60	1/4″			
MPH-300350-692S32	3XL(extra long)		692	738.7	798.7	32	60	1/4″			
MPH-360470-165S40	Intermediate	36.0~47.0	165.1	222.3	292.3	40	70	1/4″	3	TSB-MP50150	TXL-20
MPH-360470-165S42	Intermediate		165.1	222.3	292.3	42	70	1/4″			
MPH-360470-210S40	Standard		209.6	266.7	336.7	40	70	1/4″			
MPH-360470-210S42	Standard		209.6	266.7	336.7	42	70	1/4″			
MPH-360470-349S40	Extended		349	406.4	476.4	40	70	1/4″			
MPH-360470-559S40	XL(extra long)		558.8	615.9	685.9	40	70	1/4″			
MPH-480650-232S40	Standard	48.0~65.0	231.8	285.8	355.8	40	70	1/4″	4		
MPH-480650-232S42	Standard		231.8	285.8	355.8	42	70	1/4″			
MPH-480650-422S40	Extended		422	476.3	546.3	40	70	1/4″			
MPH-480650-625S40	XL(extra long)		625	679.5	749.5	40	70	1/4″			
MPH-640880-172S50	Short	64.0~88.0	171.9	222.3	302.3	50	80	1/2″	56	TSB-MP60190	TXL-25
MPH-640880-274S50	Standard		273.5	323.9	403.9	50	80	1/2″			
MPH-640880-464S50	Extended		464	514.4	594.4	50	80	1/2″			
MPH-9001140-212S50	Short	90.0~114.0	172	231.8	311.8	50	80	1/2″	78		
MPH-9001140-273S50	Standard		273	333.4	413.4	50	80	1/2″			
MPH-9001140-556S50	Extended		556	616	696	50	80	1/2″			

MPD Drill Insert Holders



Type A

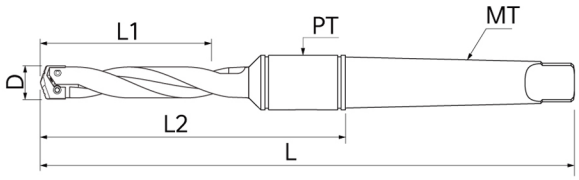


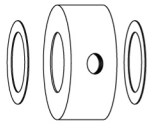
Type B

MP SPADE DRILL - MPS(Straight Flute / Flange shank)

Code No.	Length	치수 Dimension(mm)							Type	Insert Series	부품 Component	
		D	L1	L2	L	Ds	Ls	PT			Screw	Driver
MPS-095110-020S16	Stub(extra short)	9.5~11.0	19.9	50	98	16	48	1/16″	A	Y	TSB-MP20040	TXL-7
MPS-095110-032S20	Short		31.8	63.5	113.5	20	50	1/8″	B			
MPS-095110-222S20	XL(extra long)		222	254.1	304.1	20	50	1/8″				
MPS-095110-290S20	3XL(extra long)		290	322.3	372.3	20	50	1/8″				
MPS-115125-020S16	Stub(extra short)	11.5~12.5	19.9	50	98	16	48	1/16″	A	Z	TSB-MP20050	
MPS-115125-032S20	Short		31.8	63.5	113.5	20	50	1/8″	B			
MPS-115125-222S20	XL(extra long)		222	254.1	304.1	20	50	1/8″				
MPS-115125-290S20	3XL(extra long)		290	322.3	372.3	20	50	1/8″				
MPS-130175-022S20	Stub(extra short)	13.0~17.5	22.2	50.4	100.4	20	50	1/8″	A	0	TSB-MP25060	TXL-8
MPS-130175-035S20	Short		34.9	66.3	116.3	20	50	1/8″	B			
MPS-130175-295S20	XL(extra long)		295	326.7	376.7	20	50	1/8″				
MPS-130175-387S20	3XL(extra long)		387	418.8	468.8	20	50	1/8″				
MPS-155175-022S20	Stub(extra short)	15.5~17.5	22.2	50.4	100.4	20	50	1/8″	A			
MPS-155175-035S20	Short		34.9	66.3	116.3	20	50	1/8″	B			
MPS-155175-295S20	XL(extra long)		295	326.7	376.7	20	50	1/8″				
MPS-155175-387S20	3XL(extra long)		387	418.8	468.8	20	50	1/8″				
MPS-180240-048S25	Stub(extra short)	18.0~24.0	47.6	79.4	135.4	25	56	1/8″	A	1	TSB-MP30070	TXL-9
MPS-180240-067S25	Short		66.7	110.7	166.7	25	56	1/8″	B			
MPS-180240-457S25	XL(extra long)		457	498.1	554.1	25	56	1/8″				
MPS-180240-569S25	3XL(extra long)		569	606.1	662.1	25	56	1/8″				
MPS-220240-048S25	Stub(extra short)	22.0~24.0	47.6	79.4	135.4	25	56	1/8″	A			
MPS-220240-067S25	Short		66.7	110.7	166.7	25	56	1/8″	B			
MPS-220240-457S25	XL(extra long)		457	498.7	554.1	25	56	1/8″				
MPS-220240-569S25	3XL(extra long)		569	606.1	662.1	25	56	1/8″				
MPS-250350-057S32	Stub(extra short)	25.0~35.0	57.2	92.1	152.1	32	60	1/4″	A	2	TSB-MP40095	TXL-15
MPS-250350-086S32	Short		85.7	132.2	192.2	32	60	1/4″	B			
MPS-250350-511S32	XL(extra long)		511	557.7	617.7	32	60	1/4″				
MPS-250350-692S32	3XL(extra long)		692	738.7	798.7	32	60	1/4″				
MPS-300350-057S32	Stub(extra short)	30.0~35.0	57.2	92.1	152.1	32	60	1/4″	B			
MPS-300350-086S32	Short		85.7	132.2	192.2	32	60	1/4″				
MPS-300350-511S32	XL(extra long)		511	557.7	617.7	32	60	1/4″				
MPS-300350-692S32	3XL(extra long)		692	738.7	798.7	32	60	1/4″				
MPS-360470-121S40	Short	36.0~47.0	120.7	177.8	247.8	40	70	1/4″	B	3	TSB-MP50150	TXL-20
MPS-360470-121S42	Short		120.7	177.8	247.8	42	70	1/4″				
MPS-360470-349S40	Extended		349.3	406.4	476.4	40	70	1/4″				
MPS-360470-349S42	Extended		349.3	406.4	476.4	42	70	1/4″				
MPS-360470-611S40	XL(extra long)		558.8	616	685.9	40	70	1/4″				
MPS-480650-130S40	Short	48.0~65.0	130.2	184.2	254.2	40	70	1/4″	B	4		
MPS-480650-130S42	Short		130.2	184.2	254.2	42	70	1/4″				
MPS-480650-422S40	Extended		422.3	476.3	546.3	40	70	1/4″				
MPS-480650-422S42	Extended		422.3	476.3	546.3	42	70	1/4″				
MPS-480650-625S40	XL(extra long)		625	679.6	749.5	40	70	1/4″				
MPS-640880-172S50	Short	64.0~88.0	171.5	237.5	317.5	50	80	1/2″	B	56	TSB-MP60190	TXL-25
MPS-640880-273S50	Standard		273	339	419.1	50	80	1/2″				
MPS-640880-434S50	Extended		463.6	529.6	609.6	50	80	1/2″				
MPS-9001140-172S50	Short	90.0~114.0	171.5	272.4	352.4	50	80	1/2″	B	78		
MPS-9001140-273S50	Standard		273	374	454	50	80	1/2″				
MPS-9001140-556S50	Extended		555.6	656.6	736.6	50	80	1/2″				

MPD Drill Insert Holders

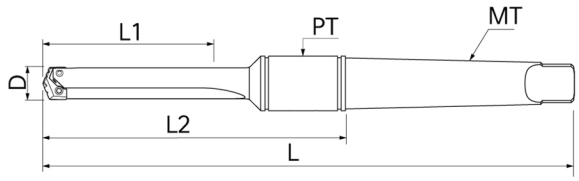


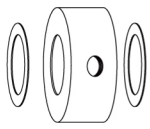


ORC

MP SPADE DRILL - MPH-MT (Helical Flute / Morse taper)

Code No.	Length	치수 Dimension(mm)						Insert Series	부품 Component		
		D	L1	L2	L	MT	PT		Screw	Driver	ORC
MPH-095110-060MT2	Standard	9.5~11.0	60.3	116.7	191.3	#2	1/16″	Y	TSB-MP20040	TXL-7	ORC-019
MPH-095110-111MT2	Extended		111.1	167.4	242.1	#2	1/16″				
MPH-115125-060MT2	Standard	11.5~12.5	60.3	116.7	191.3	#2	1/16″	Z	TSB-MP20050		
MPH-115125-111MT2	Extended		111.1	167.4	242.1	#2	1/16″				
MPH-130175-064MT2	Standard	13.0~17.5	63.5	121.0	195.7	#2	1/16″	0	TSB-MP25060	TXL-8	
MPH-130175-114MT2	Extended		114.3	171.8	246.5	#2	1/16″				
MPH-130175-178MT2	Long		177.8	235.3	310.3	#2	1/16″				
MPH-155175-064MT2	Standard	15.5~17.5	63.5	121.0	195.7	#2	1/16″				
MPH-155175-114MT2	Extended		114.3	171.8	246.5	#2	1/16″				
MPH-155175-178MT2	Long		177.8	235.3	310.3	#2	1/16″				
MPH-180240-121MT3	Intermediate	18.0~24.0	120.7	193.3	286.9	#3	1/8″	1	TSB-MP30070	TXL-9	ORC-025
MPH-180240-172MT3	Standard		171.5	244.1	337.8	#3	1/8″				
MPH-180240-273MT3	Extended		273.1	345.7	439.4	#3	1/8″				
MPH-220240-121MT3	Intermediate	22.0~24.0	120.7	193.3	286.9	#3	1/8″				
MPH-220240-176MT3	Standard		171.5	244.1	337.8	#3	1/8″				
MPH-220240-273MT3	Extended		273.1	345.7	439.4	#3	1/8″				
MPH-250350-137MT4	Intermediate	25.0~35.0	136.5	211.2	328.2	#4	1/8″	2	TSB-MP40095	TXL-15	
MPH-250350-187MT4	Standard		187.3	262.0	379.0	#4	1/8″				
MPH-250350-289MT4	Extended		289.0	363.6	480.6	#4	1/8″				
MPH-300350-137MT4	Intermediate	30.0~35.0	136.5	218.4	335.4	#4	1/4″				ORC-031
MPH-300350-187MT4	Standard		187.3	269.2	386.2	#4	1/4″				
MPH-300350-289MT4	Extended		289.0	370.8	487.8	#4	1/4″				
MPH-360470-165MT4	Intermediate	36.0~47.0	165.1	250.9	368.4	#4	1/4″	3	TSB-MP50150	TXL-20	
MPH-360470-210MT4	Standard		209.5	295.3	412.8	#4	1/4″				
MPH-480650-232MT4	Standard	48.0~65.0	231.8	320.7	469.9	#4	1/4″	4			ORC-044
MPH-640880-273MT5	Standard	64.0~88.0	273.1	388.9	536.6	#5	1/2″	5,6	TSB-MP60190	TXL-25	ORC-057
MPH-9001140-273MT5	Standard	90.0~114.0	273.1	398.5	546.1	#5	1/2″	7,8			





ORC

MP SPADE DRILL - MPS-MT (Straight Flute / Morse taper)

Code No.	Length	치수 Dimension(mm)						Insert Series	부품 Component		
		D	L1	L2	L	MT	PT		Screw	Driver	ORC
MPS-095110-032MT2	Short	9.5~11.0	31.8	88.0	162.9	#2	1/16″	Y	TSB-MP20040	TXL-7	ORC-019
MPS-115125-032MT2	Short	11.5~12.5	31.8	88.0	162.9	#2	1/16″	Z	TSB-MP20050		
MPS-130175-035MT2	Short	13.0~17.5	35.0	92.4	167.1	#2	1/16″	0	TSB-MP25060	TXL-8	
MPS-155175-035MT2	Short	15.5~17.5	35.0	92.4	167.1	#2	1/16″				
MPS-180240-070MT3	Short	18.0~24.0	69.8	142.5	236.1	#3	1/8″	1	TSB-MP30070	TXL-9	ORC-025
MPS-220240-070MT3	Short	22.0~24.0	69.8	142.5	236.1	#3	1/8″				
MPS-250350-086MT4	Short	25.0~35.0	85.7	160.4	277.4	#4	1/8″	2,3	TSB-MP40095	TXL-15	
MPS-300350-086MT4	Short	30.0~35.0	85.7	167.6	284.6	#4	1/4″				ORC-031
MPS-360470-121MT4	Short	36.0~47.0	120.6	206.4	322.7	#4	1/4″		TSB-MP50150	TXL-20	
MPS-360470-349MT4	Extended		349.3	435.0	552.5	#4	1/4″				
MPS-360470-473MT4	Long		472.8	555	676	#4	1/4″				
MPS-480650-130MT5	Short	48.0~65.0	130.1	219.1	368.3	#5	1/4″	4			ORC-044
MPS-480650-422MT5	Extended		422.3	511.2	660.4	#5	1/4″				
MPS-640880-172MT5	Short	64.0~88.0	171.5	287.3	435.0	#5	1/2″	5,6	TSB-MP60190	TXL-25	ORC-057
MPS-640880-464MT5	Extended		463.6	579.4	727.1	#5	1/2″				
MPS-9001140-172MT5	Short	90.0~114.0	171.5	296.8	444.5	#5	1/2″	7,8			
MPS-9001140-556MT5	Extended		555.6	681.1	828.7	#5	1/2″				

Recommended cutting values for MPD

ISO	Material 재질구분	Hardness 경도(HB)	HSS Grade	Vc(m/min)				Feed 이송(mm/rev)						
				TiN	TiCN	TiAlN	TiAlSiN	Φ9.5~Φ12.5	Φ13~Φ17.5	Φ18~Φ24	Φ25~Φ35	Φ36~Φ47	Φ48~Φ65	Φ65~Φ114
P	Free machining steel 쾌삭강(-0.2%) 1118, 1215, 12L14, etc.	100-150	M04	62	79	84	97	-	-	-	-	-	0.56	0.71
		150-200	M04	56	71	80	88	-	-	-	-	-	0.56	0.71
		200-250	M04	20	65	72	83	-	-	-	-	-	0.56	0.71
	Low carbon steel 저탄소강(-0.25%) 1010, 1020, 1025, 1522, 1144, etc.	85-125	M04	52	66	75	86	-	-	-	-	-	0.56	0.68
		125-175	M04	50	63	72	81	-	-	-	-	-	0.56	0.68
		175-225	M04	48	58	69	77	-	-	-	-	-	0.52	0.60
		225-275	M04	44	55	65	71	-	-	-	-	-	0.52	0.60
	Midium carbon steel 중탄소강(-0.25%) 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	M04	50	63	73	81	-	-	-	-	-	0.56	0.68
		175-225	M04	47	59	69	77	-	-	-	-	-	0.52	0.60
		225-275	M04	44	56	64	71	-	-	-	-	-	0.50	0.58
		275-325	M48	41	52	59	65	0.10	0.17	0.22	0.30	0.40	0.46	-
	Alloy Steel 합금강 4140, 5140, 8640, etc	125-175	M04	46	59	64	71	-	-	-	-	-	0.47	0.54
		175-225	M04	43	55	59	66	-	-	-	-	-	0.46	0.54
		225-275	M04	40	52	55	62	-	-	-	-	-	0.46	0.54
		275-325	M48	37	47	52	57	0.10	0.15	0.22	0.29	0.37	0.42	0.50
		325-375	M48	34	44	47	52	0.08	0.14	0.21	0.28	0.36	0.40	-
	High Strengh Alloy 고경도 합금강 4340, 4330V, 300M, etc	225-300	M48	24	30	34	36	0.12	0.17	0.22	0.24	0.35	0.42	-
		300-350	M48	18	24	26	28	0.10	0.17	0.22	0.24	0.35	0.42	-
		350-400	M48	15	20	21	23	0.08	0.15	0.20	0.22	0.30	0.37	-
	Structural Steel 구조용강 A36, A285, A516, ect	100-150	M04	43	55	61	69	-	-	-	-	-	0.52	0.65
		150-250	M04	37	47	52	55	-	-	-	-	-	0.46	0.59
		250-350	M48	30	40	43	46	0.10	0.20	0.22	0.24	0.34	0.41	-
	Tool Steel 공구강 H-13, H-21, A-4, O-2, S-3, etc.	150-200	M48	24	34	32	36	0.10	0.15	0.20	0.25	0.29	0.37	-
		200-250	M48	18	26	27	29	0.09	0.15	0.19	0.25	0.28	0.36	-
M	Stainless steel 400 series 스테인레스강 416, 420, etc.	185-275	M48	23	29	32	34	0.13	0.18	0.21	0.26	0.35	0.40	-
		275-350	M48	18	24	27	29	0.12	0.17	0.19	0.24	0.29	0.35	-
	Stainless steel 300 series 스테인레스강 304, 316, 17-4PH, etc.	135-185	M48	23	29	32	34	0.08	0.17	0.19	0.26	0.34	0.39	-
		185-275	M48	18	24	27	29	0.07	0.14	0.17	0.24	0.29	0.35	-
K	Grey, Nodular cast iron 회주철, 구상흑연주철 A48-76, GR30/GR45, A536-72, A22-76	120-150	M04	52	67	76	82	-	-	-	-	-	0.68	0.74
		150-200	M04	46	59	69	77	-	-	-	-	-	0.63	0.68
		200-220	M04	40	52	59	66	-	-	-	-	-	0.52	0.58
		220-260	M48	34	44	50	55	0.12	0.17	0.22	0.29	0.35	0.42	-
		260-320	M48	27	37	41	45	0.10	0.14	0.17	0.22	0.28	0.35	-
N	Aluminum 알루미늄 2014, 6061, 7075, etc.	30	M04	183	229	259	270 ▽	-	-	-	-	-	0.64	0.64
		180	M04	91	122	137	190 ▽	-	-	-	-	-	0.62	0.64
S	High Temp Alloy 내열합금강 Hastlloy B, Inconel 600, etc.	140-220	M48	9 ▽	11 ▽	12 ▽	13 ▽	0.09	0.17	0.20	0.24	0.27	0.33	-
		220-310	M48	8	9	11	12	0.08	0.14	0.17	0.19	0.24	0.28	-

인서트의 외경이 드릴 몸통부위 보다 최소 0.3mm(0.012″)이상 커야 함.
Check that the insert outer diameter is a minimum 0.3mm(0.012″) larger than the holder body diameter.

상기표의 추천 Speed와 Feed는 이상적인 조건이며 장비의 상태와 작업 여건에 따라 Speed와 Feed는 줄여서 작업을 하십시오.
"The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and shold be condidered only as good starting points"
초기 작업시 Speed는 약20%, Feed는 약10% 줄여서 작업조건을 설정 하시기를 바랍니다.
When initial operation, speed and feed reductions(20% reduction in speed and 10% reduction in feed) are recommended.

Recommended cutting values for MPD

ISO	Material 재질구분	Hardness 경도(HB)	Carbide Grade	Vc(m/min)	Feed 이송(mm/rev)						
				TiAlSiN	Φ9.5~Φ12.5	Φ13~Φ17.5	Φ18~Φ24	Φ25~Φ35	Φ36~Φ47	Φ48~Φ65	Φ65~Φ114
P	Free machining steel 쾌삭강(-0.2%) 1118, 1215, 12L14, etc.	100-150	C25	128	-	0.30	0.38	0.45	0.53	-	-
		150-200	C25	110	-	0.28	0.35	0.40	0.48	-	-
		200-250	C25	104	-	0.25	0.33	0.38	0.43	-	-
	Low carbon steel 저탄소강(-0.25%) 1010, 1020, 1025, 1522, 1144, etc.	85-125	C25	119	-	0.25	0.33	0.43	0.48	-	-
		125-175	C25	104	-	0.25	0.33	0.10	0.45	-	-
		175-225	C25	95	-	0.23	0.30	0.38	0.43	-	-
		225-275	C25	83	-	0.23	0.30	0.38	0.43	-	-
	Midium carbon steel 중탄소강(-0.25%) 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	C25	104	-	0.25	0.33	0.43	0.45	-	-
		175-225	C25	95	-	0.23	0.33	0.38	0.43	-	-
		225-275	C25	83	-	0.23	0.30	0.38	0.43	-	-
		275-325	C25	70	-	0.23	0.30	0.35	0.40	-	-
	Alloy Steel 합금강 4140, 5140, 8640, etc	125-175	C25	99	-	0.25	0.33	0.40	0.45	-	-
		175-225	C25	92	-	0.23	0.30	0.38	0.43	-	-
		225-275	C25	83	-	0.23	0.30	0.38	0.43	-	-
		275-325	C25	76	-	0.20	0.28	0.35	0.40	-	-
		325-375	C25	67	-	0.18	0.25	0.33	0.38	-	-
	High Strengh Alloy 고경도 합금강 4340, 4330V, 300M, etc	225-300	C25	61	-	0.23	0.25	0.30	0.38	-	-
		300-350	C25	55	-	0.20	0.23	0.28	0.35	-	-
		350-400	C25	49	-	0.18	0.20	0.25	0.30	-	-
	Structural Steel 구조용강 A36, A285, A516, ect	100-150	C25	95	-	0.28	0.35	0.40	0.45	-	-
		150-250	C25	76	-	0.25	0.30	0.35	0.40	-	-
		250-350	C25	70	-	0.23	0.28	0.25	0.35	-	-
	Tool Steel 공구강 H-13, H-21, A-4, O-2, S-3, etc.	150-200	C25	67	-	0.18	0.23	0.28	0.33	-	-
		200-250	C25	52	-	0.15	0.23	0.28	0.33	-	-
M	Stainless steel 400 series 스테인레스강 416, 420, etc.	185-275	C25	64	-	0.22	0.29	0.35	0.40	-	-
		275-350	C25	49	-	0.19	0.27	0.30	0.35	-	-
	Stainless steel 300 series 스테인레스강 304, 316, 17-4PH, etc.	135-185	C25	64	-	0.17	0.22	0.26	0.30	-	-
		185-275	C25	49	-	0.14	0.20	0.22	0.25	-	-
K	Grey, Nodular cast iron 회주철, 구상흑연주철 A48-76, GR30/GR45, A536-72, A22-76	120-150	C25	141	-	0.30	0.38	0.48	0.58	-	-
		150-200	C25	122	-	0.28	0.33	0.43	0.53	-	-
		200-220	C25	110	-	0.23	0.30	0.38	0.45	-	-
		220-260	C25	95	-	0.20	0.28	0.33	0.38	-	-
		260-320	C25	83	-	0.18	0.25	0.28	0.33	-	-
N	Aluminum 알루미늄 2014, 6061, 7075, etc.	30	C25	460	-	0.38	0.45	0.50	0.55	-	-
		180	C25	305	-	0.33	0.40	0.45	0.50	-	-
S	High Temp Alloy 내열합금강 Hastlloy B, Inconel 600, etc.	140-220	C25	32	-	0.18	0.23	0.28	0.33	-	-
		220-310	C25	26	-	0.15	0.15	0.25	0.30	-	-

Deep Hole Drill in Speed & Feed Adujstment

Holder	Extended	Long	XL	3XL
Speed	0.90	0.85	0.80	0.75
Feed	-	0.95	0.90	0.90

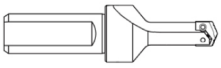
Recommended Speed and Feed Example:
"If the recommended speed and feed is 30M/min and 0.50mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 22.5M/min and 0.45mm/rev"

ex) 30 X 0.75=22.5M/min, 0.50 X 0.90=0.45mm/rev

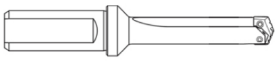
[MPD Insert series]

Insert Series	Drill diameter (mm)
Y Series	9.5 ~ 11.0
Z Series	11.11 ~ 12.7
0 Series	13.0 ~ 17.5
1 Series	17.86 ~ 24.0
2 Series	24.5 ~ 35.0
3 Series	35.5 ~ 47.63
4 Series	48.0 ~ 65.09
5 Series	63.5 ~ 76.2
6 Series	76.99 ~ 88.9
7 Series	89.69 ~ 101.6
8 Series	102.0 ~ 114.3

[MPD Holder Length Options]



Stub (Extra short) Length 1.5~2.5D | Series: MPH-None. / MPS-Y, Z, 0, 1, 2



Short Length ~3.5D (max.) | Series: MPH-5, 6, 7, 8 / MPS-ALL

Intermediate Length ~6.5D (max.) | Series: MPH-1, 2, 3 / MPS-None.

Standard Length ~9.0D (max.) | Series: MPH-1, 2, 3 / MPS-None.

Extended Length ~12.0D (max.) | Series: MPH-ALL / MPS-3, 4, 5, 6, 7, 8

Long Length ~15.0D (max.) | Series: MPH-0, 1 / MPS-None.

XL (Extra long) Length ~25.0D (max.) | Series: MPH-0, 1, 2, 3, 4 / MPS-Y, Z, 0, 1, 2, 3, 4

3XL (Extra long) Length ~30.0D (max.) | Series: MPH-0, 1, 2 / MPS-Y, Z, 0, 1, 2

KoreaTechnics Ltd.
HIGH SPEED CUTTING TOOLS

47, Pyeongcheon-ro 826beon-gil, Wonmi-gu, Bucheon-si, Gyeonggi-do, KOREA
TEL. +82-32-673-1818 FAX. +82-32-682-1219
(14521) 경기도 부천시 원미구 평천로 826번길 47
TEL. 032-673-1818 FAX. 032-673-3369

2018-12